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TEXAS INSTRUMENTS INCORPORATED
P O BOX 655474, M/S 3999
DALLAS, TX 75265

EXAMINER

MITCHELL, JAMES M

ART UNIT PAPER NUMBER

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Please find below and/or attached an Office communication concerning this application or proceeding.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/034,827
Filing Date: January 03, 2002
Appellant(s): MORRISON ET AL.

MAILED

APR 08 2005

GROUP 2800

Jay Cantor
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 25, 2004.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

The rejection of claims 2, 4-10, 12, 15, 17, 18, 20 and 23 stands or fall together are correct. See 37 CFR 1.192(c)(7).

(8) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

JP 2001-217388

Inaba

08-2001

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 2, 4-10, 12, 15, 17, 18, 20 and 23 are rejected under 35 U.S.C. 102 and 103.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in–

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 2, 6, 7, 9, 10, 15, 17, 18 and 23 stand rejected under 35 U.S.C. 102(e) as being anticipated by Inaba (JP 2001-217388).

Inaba discloses a semiconductor assembly and method of assembling comprising steps of inherently forming strip-like flexible interconnector (2) of electrically insulating polyimide material (Para. 0016) having first (top) and second (bottom)

surfaces, said interconnector having on said first surface and second surfaces by inherently forming electrically copper conductive lines integral on said strip like flexible interconnector (Para.0015) for connecting a plurality of packaged semiconductor devices (item 3 surrounded by item R), forming on the first surface with an inherent first array of ports (2f ; Fig 9), said interconnect further having inherent electrical paths extending through said interconnect (via first chip closest to substrate electrically connected to substrate through contacts 7) forming electrical ports (7) on said second surface, and inherently attaching a plurality of second coupling members to said array of inherent ports (via 7; Fig 2), wherein the arrays are grouped in separate areas and a first plurality of ports are spaced apart less, center to center, than a seconding plurality of ports (via spacing of item 2, compared to item 7) are spaced apart, center to center, folding said interconnector so that adjacent separately encapsulated semiconductor devices (Fig 4) are stacked on top of each other, and at least one un-capsulated semiconductor device (chip portion with no item R) having a plurality of first electrical coupling members attached to said first plurality of ports, and a plurality of second of second electrical coupling members attached to said second plurality of ports, said coupling members suitable for attachment to other parts, said ports face in one direction while said port face in the opposite direction, at least one semiconductor device (3) having a plurality of gold coupling members (8; Para. 0024) said first coupling members attached to said entry ports (shown in Fig 9); said device is an inherent integrated circuit chip (Para. 0018) having an active and passive surface; said device encapsulated (9) with a non-conducting polymer underfilling any spaces between said

coupling members attached to said ports under said device in a package with outside contact pads with said first coupling members inherently attached to said contact pads.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 4, 12, 20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Inaba as applied to claims 15 and 23 and further in combination with Denes (U.S. 5,220,488).

Inaba does not appear to disclose passive electrical component integrated into the conductive line, however Denes utilizes disclose passive electrical components integrated into the conductive line (Fig 1, 4, 5).

Art Unit: 2813

It would have been obvious to one of ordinary skill in the art to integrate passive components into said conductive lines on the interconnector of Inaba, in order to provide high reliability as taught by Denes (Abstract).

Claims 5 and 8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Inaba as applied to claim 15 or 23 and in further combination with Akram (US 6,214,714).

With respect to claim 5, Inaba discloses an inherent port space, but does not appear to disclose that the ports are spaces less than 100 micrometers. In any case, various spacing of ports/pads are known in the art and used for various packaging sizes. It would have been an obvious matter of design choice bounded by well known manufacturing constraints and ascertainable by routine experimentation and optimization to choose these particular dimensions because applicant has not disclosed that the dimensions are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical, and it appears prima facie that the process would possess utility using another dimension. Indeed, it has been held that mere dimensional limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See, for example, *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

With respect to claims 8, Inaba further discloses inherent solder balls (via conductive bump members in the shape of a ball), but does not appear to disclose that the solder balls are formed from tin, tin/alloys, tin/ silver, tin/lead etc.

However, since appellant did not traverse that tin lead alloy is well known in the art, it is accepted and any further argument to that affect is waived. In addition, Akram is provided solely to further evidence examiner's official notice in the prior office action that tin lead alloy is well known for providing a conductive connection and that it would have been obvious to one of ordinary skill in the art form a solder ball from lead/tin at the time the present invention was made, in order to provide a ball that was conductive. Further the solder ball materials would have been obvious, since it has been held that to be within the general skill of a worker in the art to select known material on the basis of its suitability for intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416 (1960).

(11) Response to Argument

Inaba is prior art over the claimed invention, because appellant has failed to establish conception and due diligence pursuant to MPEP. 715.07 (a) during the critical period.

Appellant contends that Inaba (JP2001-217388) does not anticipate his claims, because the reference is not prior art. Appellant's position is that while "invention¹" can be established by reduction to practice with due diligence, "nothing in 35 U.S.C. limits the definition of invention to only those factors [sic]." Thus, since he has established that

his invention was ready for patenting in accordance with the requirements of 35 U.S.C. 102 [sic] prior to the Inaba, the Japanese reference is not available under 102(e).

Appellant relied on three sources to support his contention that Inaba is not available as prior art: 1) PFAFF v. Wells Electronics, 48 USPQ2d 1641, 525 U.S. 55 (U.S. 1998); 2) declaration under 37 C.F.R. 1.132; and 3) the filing date of provisional application (60/258,525).

I. PFAFF IS NOT BINDING AUTHORITY

The conditions for patentability, novelty and loss of right to patent are governed by 35 U.S.C. 102, which states in part:

A person shall be entitled to a patent unless —

(a) the invention was known or used by others in this country, or patented or *described in a printed publication* in this or a foreign country, *before the invention* thereof by the applicant for patent ², or

(b) the invention was patented or described in a printed publication in this or a foreign country **or in public use or on sale in this country, more than one year** prior to the date of the application for patent in the United States, [emphasis mine].

e) the invention was described in — (1) an application for patent, *published* under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States *before the invention* by the applicant for patent,

¹ Examiner acknowledges that the test for patentability is not altered between the examination process and an interference proceeding, but maintains that Pfaff is nonanalogous for reasons stated in the body of Examiner's Answer.

² While appellant did not object, the office action incorrectly indicated the reference was a 102(e) type however the reference is a 102(a) type. Because the relevant languages in both statutes are substantially similar "the invention was described [published]... before the invention," no change was needed in the rejection. Similarly, appellant's declaration headed as 1.132 in order to swear behind a reference was treated and examined as a 1.131.

except that an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language;

A. Pfaff can not be used as binding authority because the facts are not analogous

In Pfaff, a patent was found invalid in an infringement suit, because the patented invention had been on sale for more than one year in this country prior to the date of application. The court concluded that on-sale applies when two conditions are satisfied, sale and secondly the invention must be ready for patenting (admitted by appellant, Appeal Brief page 5). The ready for patenting requirement was found satisfied by either reduction to practice, or drawings or descriptions. The court found that when the inventor accepted purchase orders by using his drawings and detailed descriptions [no actual reduction to practice] that an item was "on sale" pursuant to 102(b), which started the one year statutory period. Id at 1647.

In this case, appellant has filed along with his provisional application, a non-provisional application, and declaration; this is similar to Pfaff, because there is no evidence of actual reduction to practice. In contrast to Pfaff, appellant's invention was neither patented nor has there been evidence that drawings or other descriptions were used to produce a sale of appellant's product; thus, there's no issue of "on sale". Because the critical facts in Pfaff are not analogous or "sufficiently similar" to the case at bar, reliance on Pfaff's holding or its rationale cannot be used. See MPEP §2144 (if

Art Unit: 2813

prior legal decision are sufficiently similar to those in an application under examination... may use the rationale).

B. Evidence of drawings or descriptions is not the same as Reduction to Practice

Appellant has made arguments that drawings or descriptions is enough to establish invention, and that it is entitled to a date earlier than the prior art based on at least the filing date of the drawings or declarations. However, appellant failed to justify his conclusion or cite where in Pfaff was his position supported.

In a close analysis of Pfaff, appellant's position can only be supported by Pfaff's statement that "ready for patenting" is shown either by "reduction to practice" or "drawings or descriptions." This fails to acknowledge the express direction given by the court that the two conditions of **sale** and **ready for patenting** be satisfied and attempts to partition the courts ruling, by indicating that the first condition is not relevant [sic] and that merely by looking at the court's second test, that prior invention can be established.

While drawings or descriptions coupled with sale in Pfaff have the same effect as sale with reduction to practice under 102(b) in **establishing a concept that was complete** (i.e. an invention) for purposes of establishing "on sale." Beyond 102(b) situations, the case is silent as to the effect of "drawings or other description " or "reduction to practice" in establishing prior invention. Reliance on such drawings or descriptions to establish prior invention is inconsistent with Pfaff , MPEP and public policy.

C. Appellant's mere drawings or descriptions cannot be relied on to establish prior invention because there is no showing of diligence

Appellant's arguments omit a critical element that Pfaff's holding was based on the "assumption" that there was "due diligence." 48 USPQ2d at 1644. see also MPEP 715.07 [R-2] ("A conception of an invention, though evidenced by disclosure, drawings, and even a model... confers no right on an inventor... UNLESS THE INVENTOR FOLLOWS WITH REASONABLE DILEGENCE...") [emphasis MPEP]. The court in its analysis explained that when "**assuming diligence** on the part of the applicant it is normally the first to conceive rather than the first to reduce to practice, who establishes a right to patent [emphasis mine]." 48 USPQ2d at 1644. Therefore, even assuming that "drawing or descriptions" were the same as "[actual] reduction to practice" in establishing prior invention, the same elements consistent with 37 C.F.R. 1.131(b) would be needed, which would be either "[actual] reduction to practice" or conception (i.e. established by drawings or descriptions) with "due diligence".

D. Appellant's mere drawings or descriptions cannot be relied on to establish prior invention because it is inconsistent with 37 CFR 1.131

Although appellant acknowledges a requirement of reduction to practice (actual or constructive) with due diligence [sic]³, it fails to cite any primary or secondary source to support his contention that nothing in 35 U.S.C. limits the definition of invention to only those factors. Even assuming the appellant is correct that an invention may

arguably be defined in other ways (no cite is provided by appellant) that does not override the law of 37 CFR 1.131, which expressly provides how to establish prior invention; an invention may lose its priority. See MPEP 2138.03. Therefore, appellant's basis for establishing prior invention has to be consistent with 37 CFR 1.131. Thus, contrary to appellant's proposition that there are other ways to define invention other than actual and constructive reduction to practice, nothing in Pfaff supports his position.

While Pfaff's states that "...just because reduction to practice is sufficient evidence of completion, it does not follow that proof of reduction to practice is necessary in every case," is similar to appellant. The language in Pfaff is different in that it does not contend that there are methods other than "reduction to practice" and "conception with due diligence." 48 USPQ2d at 1646. Assuming diligence, when an item is sold based off of drawings or description, it establishes that the invention was ready for patent, which goes to when the one year period starts to commence under 35 U.S.C.102 (b). The language in Pfaff is consistent with 37 C.F.R. 1.131 in that the courts holding was based off of a finding that Pfaff's acceptance of purchase orders through his drawings and descriptions were of such detail that the manufacture was able to produce the described product that further evidenced a complete invention.

This established that Pfaff's invention at the time of his drawings and description was "ready for patenting" and when coupled with a sale, that his invention was complete. Pfaff's similar language to appellant merely provides support that conception (when at the level that an inventor's drawings and descriptions could be used to

³ The requirement of due diligence is necessary only for constructive reduction to practice or conception.

manufacture the product) accompanied with due diligence (assumed), could be used instead of "actual reduction to practice" to evidence that an invention was complete and that an invention was "ready for patenting". 48 USPQ2d at 1646-47.

E. Reliance on mere drawings to establish prior invention without diligence hinders public policy because it does not aid scientific knowledge.

The public policy behind the patent system is for the advancement of science. United States Constitution Article 1 Section 8. Scientific knowledge is aided through disclosure and requirements of diligence by incentives that push an inventor to disclose, which gets his or her information out to the public so that others may build on it instead of duplicating old inventions/technology. Throughout the manual of patent examination there are numerous instances where the law provides incentive or penalties for either "proof of" or failure to show diligence and disclosure. See e.g. M.P.E.P. §2138.01 (given priority if diligence shown); M.P.E.P. §2138.03 (completed invention abandoned if no action taken to make known publicly).

In this case, appellant suggest that he should receive the benefit of an earlier priority date simply because he allegedly submitted or had made drawings or descriptions earlier than the prior art. Without requiring a showing of diligence, appellant would be allowed to conceal his invention indefinitely while still receiving the benefit of priority. Such a policy would not advance scientific knowledge, since there would be no incentive for an inventor to disclose his invention, which would result in duplication of research. Appellant's propositions are against public policy and find neither support in appellant's cited case law or the manual of patent examination.

A showing of actual reduction to practice in itself establishes prior invention. MPEP 715.07 [R-2].

II. THE DECLARATION FAILS TO ESTABLISH DUE DILIGENCE

To establish due diligence appellant must follow the requirements set for the in 37 CFR 1.131(b) and MPEP 715.07(a), which states:

§ 1.131 Affidavit or declaration of prior invention:

(b) the showing of facts shall be such, in character and weight, as to establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective date of the reference coupled with due diligence from prior to said date to a subsequent reduction to practice or to the filing of the application. Original exhibits of drawings or records, or photocopies thereof, must accompany and form part of the affidavit or declaration or their absence satisfactorily explained. to that, that applicant has established.

715.07(a) Diligence

Where conception occurs... not enough merely to allege that applicant or patent owner had been diligent. Ex parte Hunter, 1889 C.D. 218, 49 O.G. 733 (Comm'r Pat. 1889). Rather, applicant must show evidence of facts establishing diligence. ...An applicant may be diligent within the meaning of the patent law when he or she is doing nothing, if his or her lack of activity is excused. Note, however, that the record must set forth an explanation or excuse for the inactivity; the USPTO or courts will not speculate on possible explanations for delay or inactivity. See In re Nelson, 420 F.2d 1079, 164 USPQ 458 (CCPA 1970). ...the critical period in which diligence must be shown begins just prior to the effective date of the reference or activity and ends with the date of a reduction to practice, either actual or constructive (i.e., filing a United States patent application)...

Appellant attempts to establish prior invention, by submitting a declaration that cites language from Pfaff. Appellant contends that because the disclosure contains "drawings or other descriptions" of the invention that were sufficiently specific to enable a person skilled in the art to practice the invention that the invention was "ready for patenting" and that appellant is entitled to at least the date of submission. Although mere disclosure of drawings or other descriptions is not sufficient to establish either

"reduction to practice" or "conception with due diligence," as argued, *supra*. Appellant's disclosure/declaration does disclose some of the subject matter of his invention, but fails to disclose the entire invention, for example it fails to disclose/ establish possession of Z-axis epoxy or an encapsulant. Nevertheless assuming full disclosure of the invention, pursuant to MPEP 715.07(a) appellant failed to establish conception and diligence during the critical period. Moreover, appellant's disclosure/declaration is silent as to the critical date and failed to account for the period by either establishing affirmative acts or acceptable excuses. See MPEP2138.06 [R-1].

III. THE PROVISIONAL APPLICATION FAILS TO ESTABLISH PRIOR INVENTION

Priority of a provisional application must be established under 35 USC 119 and MPEP 2138.4 [R-1], which says in part:

35 U.S.C 119

(e)

(1) An application for patent filed ... shall have the same effect, as to such invention, as though filed on the date of the provisional application filed under section 111(b) of this title, if the application for patent filed under section 111(a) or section 363 of this title is filed not later than 12 months after the date on which the provisional application was filed...

MPEP 2138.04 [R-1]

An abandoned application with which no subsequent application was copending serves to abandon benefit of the application's filing as a constructive reduction to practice and the abandoned application is evidence only of conception. *In re Costello*, 717 F.2d 1346, 1350, 219 USPQ 389, 392 (Fed. Cir. 1983).

Although appellant has attempted to persuade examiner and this board that his earlier filing of a provisional application establishes that his invention was "ready for patenting, " it correctly acknowledges that priority was not granted based on the provisional (Appeal Brief page 4). The standard to establish prior invention is not "ready

for patenting as argued by examiner, *supra*. Because appellant's invention was filed later than 12 months after the date of the provisional application, priority was not granted and shall not have the same effect as though filed on the date of the provisional application. While the provisional can help to establish conception, it can not be relied on to establish either "reduction to practice" or "conception with due diligence," which appellant has attempted to do by suggesting that the provisional established that his invention was "ready for patenting." Because the pending application does not have the same effect as though filed on the date of the provisional, evidence of the provisional cannot be used solely to establish prior invention. e.g. In re Costello, 717 F.2d 1346, 1350, 219 USPQ 389, 392 (Fed. Cir. 1983) (the abandoned application is evidence only of conception).


CONCLUSION

Because appellant failed to establish either "reduction to practice" or "conception with due diligence" prior to Inaba's publication date, Inaba anticipates appellant's invention. For the above reasons, it is believed that the rejections should be sustained.

Application/Control Number: 10/034,827
Art Unit: 2813

Page 17

Respectfully submitted,


Jmm
March 21, 2005

Conferees

James Mitchell

Carl Whitehead, JR.

Georgia Epps




Gary C. Honeycutt

Godwin Grubber, P.C.

Suite 655

801 E. Campbell Rd.

Richardson, TX 75081